

31 December 1991

LIQUID FUELS

1. **Objective.** As prescribed in AFR 8-10, this ANGMS quantifies the full-time manpower requirement to accomplish the tasks described in the work center description (WCD) for varying levels of workload volume.

2. **Authority.** AFR 144-1 and ANGR 144-1 series of Air Force and Air National Guard directives contain command policy and procedural guidance for the Liquid Fuels work center. This ANGMS has been developed in accordance with procedures contained in AFR 25-5 and is the result of a functional review.

3. **Applicability.** This standard applies to all Air National Guard flying units operating a Liquid Fuels function except 162 TFG, Tucson IAP, AZ; 184 TFG, McConnell AFB, KS; and ANG Training Sites (Alpena, MI; Gulfport, MS; Volk Field, WI; and Savannah, GA). This standard applies to peacetime operations only.

4. Standard Data:

a. **Classification.** Type II.

b. **Approval Date.** 29 May 1991

c. **Man-Hour Data Source.** Operational Audit (historical record and technical estimate technique).

d. **Standard Man-Hour Equations:**

(1) **Module 1, Bulk Storage:** $Y_1 = 103.13 + 0.1181X_1$

(2) **Module 2, Fuels Distribution:** $Y_2 = 73.47 + 0.2321X_2 + 0.4316X_3$

(3) **Module 3, Cryogenics:** $Y_3 = 23.16 + 0.02030X_4$

(4) **Module 4, Quality Control and Inspection:** $Y_4 = 90.36 + 0.2776X_5$

(5) **Module 5, Accounting:** $Y_5 = 74.63 + 0.02285X_6$

(6) $Y_C = Y_1 + Y_2 + Y_3 + Y_4 + Y_5$

e. **Workload Factors:**

(1) **Titles:**

(a) **Workload 1 (X1):** A Gallon of Aviation Fuel Received.

(b) **Workload 2 (X2):** A Gallon of Aviation Fuel Issued.

(c) **Workload 3 (X3):** An Aircraft Refueled/Defueled.

(d) **Workload 4 (X4):** A Gallon of Cryogenics Product Received.

(e) **Workload 5 (X5):** A Quality Control Sample Drawn.

(f) **Workload 6 (X6):** An Accounting Transaction Processed.

(2) **Definitions:**

(a) **Workload 1 (X1):** The average monthly number of gallons of aviation fuel (in thousands) received by the Fuels work center.

(b) **Workload 2 (X2):** The average monthly number of gallons of aviation fuel (in thousands) issued to a host or transient aircraft by the Fuels work center.

(c) **Workload 3 (X3):** The average monthly number of host and transient aircraft refueled/defueled by the Fuels work center.

(d) **Workload 4 (X4):** The average monthly number of gallons of liquid oxygen and liquid nitrogen received by the Fuels work center.

(e) **Workload 5 (X5):** The average monthly number of quality control samples drawn (minus the liquid oxygen test) by the Fuels work center.

(f) **Workload 6 (X6):** The average monthly number of accounting transactions processed by the Fuels work center.

(3) **Sources:**

(a) **Bulk Storage:** Workload 1 (X1): Monthly Fuels Management Data Report (M-34). "Aviation Receipts" page of the M-34. Under the "Mode" column (Commercial Truck, Government Truck, Pipeline, and Tank Car rows), total the "Receipts-Monthly Gallons" column. Divide the total gallons by 1,000 to derive the monthly WLF value.

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1 Workload 2 (X2): Monthly Fuels Management Data Report (M-34). "Aviation Refuel" page of the M-34. Under the "Refuel Method" column add the gallons issued by Refueling Unit, Refuel Hydrant, Hydrant hose truck, and Hot Refuel Pantograph. Sum the total Aviation gallons issued and divide by 1,000 to derive the monthly WLF value.

2 Workload 3 (X3): Monthly Fuels Management Data Report (M-34). "Aviation Refuel" page of M-34. Under "Refuel/Defuel Method" transaction column, count the number of Refuels/Defuels transactions to derive the monthly WLF value.

(c) Cryogenics, Workload 4 (X4): AF Form 1237 Cryogenics Receipt form, (on file in the Fuels work center). Count the number of gallons of both Liquid Oxygen and Liquid Nitrogen received in column "B" of the AF Form 1237 on a calendar month basis to derive the monthly WLF value.

(d) Quality Control and Inspection, Workload 5 (X5): AFTO Form 150 (Fuels Samples Drawn Record) or computer product on file in the Fuels work center. Obtain the monthly samples drawn count by subtracting the first sample of a calendar month from the last sample of the calendar month. From this total subtract the liquid oxygen odor tests performed to derive the monthly WLF value.

(e) Accounting, Workload 6 (X6): Monthly Fuels Management Data Report (M-34):

1 Aviation Fuels: M-34 Report, count the total monthly transactions listed under "Method for Refuel/Defuel" for all aviation fuels.

2 Ground Fuels: M-34 Report, count the total monthly issue transactions for all ground fuels issued.

3 Obtain the Monthly transactions processed by adding the Aviation "Refuels/Defuels" and all "Ground fuels" issued to derive the monthly WLF values.

5. Application Instructions:

a. The aggregate of manpower authorizations are the totals of work actually performed in Y1 through Y5. The five modules, Bulk Storage, Fuels Distribution, Cryogenics, Quality Control and Inspection, and Accounting, are combined to make efficient use of all functional manpower. These totals are reflected on the AF Form 1113, Standard Manpower Table.

b. A monthly total of 12 consecutive months data is required to obtain the average in each of the five modules of the equation.

c. Credit towards manpower will be authorized only in modules where work is actually performed, i.e., a Fuels work center that is a tenant to a host base will receive no credit in Bulk Storage; a Fuels work center that has no cryogenics workload will receive no credit in Cryogenics; and a Fuels Work center not processing accounting transactions receives no credit for Accounting.

d. The extrapolation limits for each equation are as follows:

Module 1, Bulk Storage:

Yu = 271.825

YL = 103.130

Module 2, Fuels Distribution:

Yu = 715.974

YL = 107.384

Module 3, Cryogenics:

Yu = 68.228

YL = 26.332

Module 4, Quality Control and Inspection:

Yu = 174.320

YL = 90.363

Module 5, Accounting:

Yu = 124.596

YL = 74.633

e. To use the AF Form 1113 manpower table:

(1) Determine the values for the five Modules identified in paragraph 4d above.

(2) Substitute the appropriate WLF values into the corresponding manhour equations for "X1", "X2", "X3", "X4", "X5", and "X6."

(3) Obtain the total man-hours (Yc) by adding the results of the five equations (Y1 + Y2 + Y3 + Y4 + Y5) as they apply.

(4) Divide the total man-hours by the current Manhour Availability Factor (MAF) to determine total requirements.

NOTE: To determine whole manpower requirements apply ANG standard application procedures using the Fractional Manpower Range Table.

(5) Find the column in which the number of required authorizations falls; then read up and across the column to determine the total manpower by AFSC.

6. **Statement of Conditions:** This work center's normal hours of operation are 8 hours a day, 5 days a week. There are no other standard of living constraints which affect the daily operation of this work center.

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JOHN B. CONAWAY
Lieutenant General, USAF
Chief, National Guard Bureau

OFFICIAL

E. DARDEN BAINES
Chief
Administrative Services

2 Attachments
1. Work Center Description
2. Standard Manpower Table

WORK CENTER DESCRIPTION**LIQUID FUELS****DIRECT:****1. BULK STORAGE OPERATION:****1.1. INSPECTS SYSTEM AND PERFORMS PREVENTIVE MAINTENANCE:**

1.1.1. TRAVELS TO AND FROM BULK STORAGE TO INSPECT SYSTEM AND PERFORM PREVENTIVE MAINTENANCE.

1.1.2. PERFORMS DAILY INSPECTION AND PREVENTIVE MAINTENANCE.

1.1.3. PERFORMS WEEKLY INSPECTION AND PREVENTIVE MAINTENANCE.

1.1.4. PERFORMS MONTHLY INSPECTION AND PREVENTIVE MAINTENANCE.

1.2. PERFORMS PRODUCT INVENTORY:

1.2.1. TRAVELS FOR PRODUCT INVENTORY. Travels through fuel storage system for bulk storage inventory. Travels for the purpose of gauging bulk storage tanks. Includes aviation fuel and deicing fluid petroleum products.

1.2.2. INVENTORIES BULK STORAGE TANK. Gauges and records fuel measurement and temperature on AF Form 1235, Physical Inventory. Includes aviation fuel, and deicing fluid products.

1.2.3. INVENTORIES GASEOUS MISSILE PROPELLANT CYLINDER. Inventories gaseous missile propellant cylinder and annotates AF Form 1235.

1.3. RECEIVES PIPELINE SHIPMENT OF BULK PETROLEUM PRODUCT:

1.3.1. TRAVELS TO AND FROM BULK STORAGE FOR AVIATION FUEL RECEIPT.

1.3.2. PREPARES FOR RECEIPT:

1.3.2.1. GAUGES RECEIPT STORAGE TANK BEFORE AND AFTER RECEIPT. Gauges and records fuel measurement and temperature on AF Form 1231, Record of Receipts.

1.3.2.2. POSITIONS RECEIPT VALVES BEFORE AND AFTER RECEIPT. Opens pipeline receipt valve(s) and receipt storage tank valve(s). Closes valve(s) upon completion of receipt.

1.3.3. RECEIVES PRODUCT. Examines fuel, takes sight and hydrometer reading, and monitors fuel system during receipt.

1.3.4. COMPLETES RECEIPT DOCUMENT.

1.4. RECEIVES TANK TRUCK SHIPMENT OF BULK PETROLEUM PRODUCT:

1.4.1. TRAVELS TO AND FROM BULK STORAGE FOR AVIATION FUEL TANK TRUCK RECEIPT.

1.4.2. PREPARES FOR RECEIPT:

1.4.2.1. POSITIONS RECEIPT VALVE BEFORE AND AFTER RECEIPT. Opens storage tank receipt valves. Closes tank receipt valves upon completion of receipt.

1.4.2.2. INSPECTS TANK TRUCK. Checks shipping documents, inspects seals, verifies fuel level and capacity markers, and performs fuel quality check.

1.4.3. RECEIVES PRODUCT. Opens fuel header receipt valve, monitors fuel system, and stops receipt when all tank truck compartments are empty and/or when fuel header receipt valve is closed.

1.4.4. COMPLETES RECEIPT DOCUMENT. Completes and signs DD Form 250, Material Inspection and Receiving Report, and other delivery receipt documents.

1.5. RECEIVES PETROLEUM PRODUCT RETURNED TO BULK FROM MOBILE UNIT:

1.5.1. TRAVELS TO AND FROM BULK STORAGE FOR MOBILE UNIT RETURNED PRODUCT.

1.5.2. POSITIONS RECEIPT VALVE BEFORE AND AFTER RECEIPT. Positions storage tank receipt valves.

1.5.3. RECEIVES PRODUCT. Examines fuel flow and monitors fuel system during receipt.

1.5.4. COMPLETES RECEIPT DOCUMENT.

1.6. RECEIVES PETROLEUM PRODUCT RETURNED TO BULK STORAGE FROM FUEL RECOVERY BOWSER:

1.6.1. TRAVELS TO AND FROM BULK STORAGE FOR RETURNED PRODUCT.

1.6.2. POSITIONS RECEIPT VALVES BEFORE AND AFTER RECEIPT. Positions storage tank receipt valves before and after receipt.

1.6.3. RECEIVES PRODUCT. Examines fuel and monitors fuel system during receipt.

1.6.4. COMPLETES RECEIPT DOCUMENT.

1.7. ISSUES BY FILLSTAND:

1.7.1. TRAVELS TO FILLSTAND. Travels to fillstand and returns for product issue.

1.7.2. PREPARES TO ISSUE. Aids mobile unit operator in positioning refueling unit, verifies type of fuel to be issued, attaches refueling unit grounding cable, positions wheel chocks, assists vehicle operator in connecting single point nozzle to refueling unit, zeros pump meter, opens fillstand issue valves, and tests fuel level cutoff switch.

1.7.3. ISSUES PRODUCT. Starts fillstand pumps and monitors fuel system.

1.7.4. CLOSSES OUT ISSUE. Closes fillstand receiver valves, stops pumps, assists driver in removing hose, removes grounding cable, performs walk around, and completes paperwork.

1.8. TRANSFERS BULK PETROLEUM PRODUCT TO HYDRANT:

1.8.1. TRAVELS TO AND FROM BULK STORAGE AREA FOR TRANSFER.

1.8.2. PREPARES FOR TRANSFER.

1.8.3. ESTABLISHES COMMUNICATION.

1.8.4. OPENS VALVE, TRANSFERS PRODUCT, CLOSSES VALVE.

1.8.5. COMPLETES PAPERWORK.

2. FUELS DISTRIBUTION:

2.1. PERFORMS FUELS VEHICLE/SPECIALIZED EQUIPMENT MAINTENANCE:

2.1.1. TRANSPORTS VEHICLE AND SPECIALIZED EQUIPMENT:

2.1.1.1. TRANSPORTS VEHICLE/SPECIALIZED EQUIPMENT TO MAINTENANCE.

2.1.1.2. TRANSPORTS VEHICLE/SPECIALIZED EQUIPMENT FROM MAINTENANCE.

2.1.2. REVIEWS AND COORDINATES SCHEDULED MAINTENANCE. Reviews vehicle and equipment periodic maintenance schedule; coordinates with Fuels Control Center (FCC), Quality Control and Inspection (QC&I), and Transportation Refueling Maintenance Shop.

2.1.3. PERFORMS VEHICLE/SPECIALIZED EQUIPMENT PREVENTIVE MAINTENANCE CHECKPOINT INSPECTION. Obtains inspection forms, travels to inspection area, performs vehicle/specialized equipment checkpoint inspection, records and corrects minor discrepancies, and advises FCC, QC&I, and Maintenance shop of maintenance discrepancy.

2.1.3.1. PREPARES FOR VEHICLE/SPECIALIZED EQUIPMENT PREVENTIVE MAINTENANCE CHECKPOINT INSPECTION. Obtains inspection form, and travels to the inspection point.

2.1.3.2. PERFORMS SPECIAL PURPOSE VEHICLE PREVENTIVE MAINTENANCE CHECKPOINT INSPECTION.

2.1.3.3. PERFORMS SPECIALIZED EQUIPMENT PREVENTIVE MAINTENANCE CHECKPOINT INSPECTION.

2.1.3.4. PERFORMS GENERAL PURPOSE VEHICLE PREVENTIVE MAINTENANCE CHECKPOINT INSPECTION.

2.1.3.5. PREPARES VEHICLE/SPECIALIZED EQUIPMENT FOR TRANSPORTATION TO MAINTENANCE.

2.1.4. WASHES VEHICLE. Washes vehicle, cleans cab interior, and cleans component compartments.

2.1.5. MAINTAINS VEHICLE OPERATOR OR MAINTENANCE GUIDE. Completes vehicle inspection form and files completed form.

2.2. PERFORMS MOBILE TRAVEL:

2.2.1. TRAVELS FROM FCC TO SERVICING LOCATION TO PERFORM REFUEL.

2.2.2. TRAVELS AFTER REFUEL:

2.2.2.1. TRAVELS TO NEXT SERVICING LOCATION TO PERFORM REFUEL.

2.2.2.2. TRAVELS BACK TO FCC.

2.2.2.3. TRAVELS TO REFILL POINT:

2.2.2.3.1. TRAVELS TO HYDRANT FILLSTAND FOR REFILL.

2.2.2.3.2. TRAVELS TO BULK STORAGE FOR REFILL.

2.2.3. TRAVELS AFTER REFILL:

2.2.3.1. TRAVELS FROM HYDRANT FILLSTAND:

2.2.3.1.1. TRAVELS TO NEXT SERVICING LOCATION. Upon completion of refill, travels to next servicing location as directed by the FCC.

2.2.3.1.2. TRAVELS TO FCC. Upon completion of refill, travels to FCC.

2.2.3.2. TRAVELS FROM BULK STORAGE:

2.2.3.2.1. TRAVELS TO NEXT SERVICING LOCATION. Upon completion of refill, travels to the next servicing location as directed by the FCC.

2.2.3.2.2. TRAVELS TO FCC. Upon completion of refill, travels to FCC.

2.2.4. TRAVELS FROM FCC TO SERVICING LOCATION TO PERFORM DEFUEL. Travels to servicing location.

2.2.5. TRAVELS AFTER DEFUEL:**2.2.5.1. TRAVELS BACK TO FCC.****2.2.5.2. TRAVELS TO BULK STORAGE TO RETURN PRODUCT TO BULK.****2.2.6. TRAVELS TO FCC AFTER RETURNING PRODUCT TO BULK.****2.3. ISSUES FUEL OR OTHER PRODUCT BY MOBILE REFUELER:****2.3.1. PRECHECKS FUELER.**

2.3.2. POSITIONS SERVICING UNIT. Annotates time arrived at servicing location, proceeds at Crew Chief's signal, and positions servicing unit.

2.3.3. PREPARES FUELER FOR SERVICING.**2.3.4. PERFORMS FUELING OPERATION:****2.3.4.1. PERFORMS FUELING OPERATION, 1 - 700 GALLONS.****2.3.4.2. PERFORMS FUELING OPERATION, 701 - 1500 GALLONS.****2.3.4.3. PERFORMS FUELING OPERATION, 1501 - 2200 GALLONS.****2.3.4.4. PERFORMS FUELING OPERATION, MORE THAN 2200 GALLONS.**

2.3.5. COMPLETES SERVICING OPERATION. Completes fuel accounting documents and prepares fueler for departure.

2.3.6. REFILLS TRUCK:**2.3.6.1. AWAITS SERVICING.**

2.3.6.2. REFILLS TRUCK FROM HYDRANT FILLSTAND. Refills truck, completes accounting documents, monitors fueling equipment, and contacts FCC.

2.3.6.3. REFILLS TRUCK FROM BULK STORAGE. Refills truck, completes accounting documents, monitors fueling equipment, and contacts the FCC.

2.4. DEFUELS FUEL:**2.4.1. PRECHECKS FUELER.**

2.4.2. POSITIONS SERVICING UNIT. Annotates time arrived at servicing location, proceeds at Crew Chief's signal, and positions servicing unit.

2.4.3. PREPARES FUELER FOR DEFUEL SERVICING.**2.4.4. PERFORMS DEFUELING OPERATION:****2.4.4.1. PERFORMS DEFUELING OPERATION, 1 - 700 GALLONS.****2.4.4.2. PERFORMS DEFUELING OPERATION, 701 - 1500 GALLONS.****2.4.4.3. PERFORMS DEFUELING OPERATION, 1501 - 2200 GALLONS.****2.4.4.4. PERFORMS DEFUELING OPERATION, MORE THAN 2200 GALLONS.**

2.4.5. COMPLETES SERVICING OPERATION. Completes fuel accounting documents and prepares fueler for departure.

2.4.6 RETURNS PRODUCT TO BULK:**2.4.6.1. AWAITS SERVICING.****2.4.6.2. RETURNS PRODUCT.** Monitors fueling equipment.**2.4.6.3. COMPLETES DOCUMENTATION AND CONTACTS FCC.****2.5. PERFORMS HYDRANT FLIGHTLINE OPERATION:****2.5.1. PERFORMS HYDRANT TRAVEL:****2.5.1.1. TRAVELS FROM FCC TO SERVICING LOCATION TO PERFORM REFUEL.****2.5.1.2. TRAVELS AFTER REFUEL:****2.5.1.2.1. TRAVELS TO NEXT SERVICING LOCATION TO PERFORM REFUEL.****2.5.1.2.2. TRAVELS BACK TO FCC.****2.5.1.3. TRAVELS FROM FCC TO SERVICING LOCATION TO PERFORM DEFUEL.** Travels to servicing location.**2.5.1.4. TRAVELS AFTER DEFUEL:****2.5.1.4.1. TRAVELS TO NEXT SERVICING LOCATION TO PERFORM DEFUEL.****2.5.1.4.2. TRAVELS TO BULK STORAGE TO RETURN FUEL.****2.5.1.4.3. TRAVELS BACK TO FCC.****2.5.2. ISSUES FUEL FROM FLIGHTLINE HYDRANT:****2.5.2.1. PRECHECKS HOSECART.****2.5.2.2. POSITIONS SERVICING UNIT.** Annotates time arrived at servicing location, proceeds at Crew Chief's signal and positions servicing unit.**2.5.2.3. PREPARES EQUIPMENT FOR SERVICING.****2.5.2.4. PERFORMS FUELING OPERATION:****2.5.2.4.1. PERFORMS FUELING OPERATION, 1 - 6000 GALLONS.****2.5.2.4.2. PERFORMS FUELING OPERATION, 6001 - 16000 GALLONS.****2.5.2.4.3. PERFORMS FUELING OPERATION, 16001 - 26000 GALLONS.****2.5.2.5. COMPLETES SERVICING OPERATION.** Completes accounting documents and prepares equipment for departure.**2.5.3. DEFUELS FUEL UTILIZING FLIGHTLINE HYDRANT SYSTEM:****2.5.3.1. PRECHECKS HOSECART.****2.5.3.2. POSITIONS SERVICING UNIT.** Annotates time arrived at servicing location, proceeds at Crew Chief's signal, and positions servicing unit.**2.5.3.3. PREPARES EQUIPMENT FOR SERVICING.****2.5.3.4. PERFORMS DEFUELING OPERATION:**

2.5.3.4.1. PERFORMS DEFUELING OPERATION, 1 - 6000 GALLONS.

2.5.3.4.2. PERFORMS DEFUELING OPERATION, 6001 - 16000 GALLONS.

2.5.3.4.3. PERFORMS DEFUELING OPERATION, 16001 - 26000 GALLONS.

2.5.3.5. COMPLETES SERVICING OPERATION. Completes accounting documents and prepares equipment for departure.

2.6. PERFORMS HOT FUELING OPERATION:

2.6.1. PERFORMS HOT FUELING TRAVEL:

2.6.1.1. TRAVELS FROM FCC TO SERVICING LOCATION TO PERFORM REFUEL.

2.6.1.2. TRAVELS BACK TO FCC AFTER REFUEL.

2.6.2. ISSUES FUEL:

2.6.2.1. PREPARES PANTOGRAPH. Prior to first hot refueling operation, inspects pantograph and logs on AFTO Form 371.

2.6.2.2. PREPARES EQUIPMENT FOR SERVICING. Prepares equipment for servicing and hands nozzle to aircraft Crew Chief.

2.6.2.3. PERFORMS FUELS SERVICING OPERATION:

2.6.2.3.1. PERFORMS FUELING OPERATION, 1 - 700 GALLONS.

2.6.2.3.2. PERFORMS FUELING OPERATION, 701 - 1500 GALLONS.

2.6.2.3.3. PERFORMS FUELING OPERATION, 1501 - 2200 GALLONS.

2.6.2.4. COMPLETES FUELS SERVICING OPERATION. Completes fuel accounting documents and returns equipment to original position.

2.7. PERFORMS HYDRANT PUMPHOUSE TYPE I AND II OPERATION:

2.7.1. PERFORMS PUMPHOUSE OPERATION:

2.7.1.1. RECEIVES PRODUCT FROM BULK STORAGE:

2.7.1.1.1. POSITIONS RECEIPT VALVES BEFORE AND AFTER RECEIPT.

2.7.1.1.2. RECEIVES PRODUCT AND MONITORS FUEL SYSTEM DURING TRANSFER OPERATION.

2.7.1.2. TRANSFERS PRODUCT. Transfers product between tanks within the same hydrant system, or transfers product to another pumphouse.

2.7.1.3. PERFORMS OPERATOR INSPECTION AND MAINTENANCE. Travels through the system and performs daily, weekly, and monthly inspection on pumphouse facilities, and completes inspection record. Informs FCC of facility status.

2.7.1.3.1. PERFORMS DAILY INSPECTION MAINTENANCE.

2.7.1.3.2. PERFORMS WEEKLY INSPECTION AND MAINTENANCE.

2.7.1.3.3. PERFORMS MONTHLY INSPECTION AND MAINTENANCE.

2.7.1.4. FLUSHES HYDRANT LATERAL. Coordinates with Quality Control and Inspection (QC&I), sets up pumphouse, and flushes hydrant lateral.

2.7.1.5. DRAIN PIPELINE LOW POINT. Assembles equipment, travels to and from drain points, flushes piping into container, empties container, and stores equipment.

2.7.1.6. INVENTORIES PRODUCT. Gauges tank, computes daily issues and receipts, completes inventory documents, reviews and transports paperwork to Accounting Section.

2.7.2. PERFORMS AIRCRAFT SINGLE PUMPHOUSE OPERATION:

2.7.2.1. SELECTS TANKS, POSITIONS VALVES FOR REFUEL/DEFUEL.

2.7.2.2. MONITORS FUEL SYSTEM DURING REFUEL/DEFUEL.

2.7.2.3. REPOSITIONS VALVES AND PUMP CONTROLS UPON COMPLETION.

2.8. PERFORMS HYDRANT PUMPHOUSE TYPE III OPERATION:

2.8.1. PERFORMS AIRCRAFT SINGLE SOURCE PUMPHOUSE OPERATION:

2.8.1.1. SELECTS TANK AND POSITIONS VALVE FOR REFUEL/DEFUEL.

2.8.1.2. MONITORS FUEL SYSTEM DURING REFUEL/DEFUEL.

2.8.1.3. REPOSITIONS VALVE AND PUMP CONTROL UPON COMPLETION.

2.8.2. PERFORMS OPERATOR INSPECTION AND MAINTENANCE:

2.8.2.1. PERFORMS DAILY INSPECTION AND MAINTENANCE.

2.8.2.2. PERFORMS WEEKLY INSPECTION AND MAINTENANCE.

2.8.2.3. PERFORMS MONTHLY INSPECTION AND MAINTENANCE.

2.8.3. DRAINS HYDRANT SYSTEM PIPELINE LOW POINT.

2.9. OPERATES FUELS CONTROL CENTER (FCC):

2.9.1. RECEIVES SERVICE REQUEST. Receives request from Job Control and other authorized agency; annotates Daily Fuels Request and Service Log (Fuels Log).

2.9.2. DISPATCHES FUELS OPERATOR. Checks control status board and determines vehicle/equipment availability, ensures operator qualification, alerts fuel operator, obtains and issues clipboard, portable radio, operator checklist, and instructs and dispatches operator to service point or bulk storage.

2.9.3. RECEIVES AND RECORDS INFORMATION. Monitors operation by communicating with operator, records information, and monitors all product movement.

2.9.4. RECEIVES AND FILES FUEL CLIPBOARD. Receives and stores fuel clipboard, portable radio, and checklist; compares issue/defuel transaction document with Fuels Log, and makes necessary correction.

2.9.5. COORDINATES OPERATOR ASSISTANCE REQUEST. Receives and coordinates operator assistance request with Base Support Agency and Fuels Management personnel; maintains contact with operator to ensure coordinated request has been complied with, resolves flightline crew delays, resolves vehicle and equipment maintenance failure, resolves personnel requirement, and other problems that develop during the fueling operation.

2.9.6. COORDINATES SPECIAL/PRIORITY FUEL REQUEST. Receives and coordinates special fuel request prior to aircraft arrival on base.

2.9.7. MAINTAINS RECORD OF SPECIFIC DATA. Maintains record of specific event on reverse side of Fuels Log and informs affected personnel.

2.9.8. COMPLETES TRANSACTION SUMMARY. Annotates Fuel Log from Consolidated Flightline Fuels Service Log, categorizes issues, enters total number of product issues by category, and enters delays in the Fuels Log.

2.9.9. MAINTAINS FUELS CONTROL STATUS BOARD CONSOLE AND PERSONNEL QUALIFICATION ROSTER. Receives and annotates data change, informs affected personnel, and briefs incoming shift supervisor.

2.9.10. EMBOSSES AND ISSUES AIRCRAFT FUELING IDENTAPLATE. Reviews aircraft maintenance log, embosses data on blank aircraft fueling identaplate, and coordinates and issues card to authorized customer.

2.9.11. MAINTAINS AND CONTROLS FUELS MANAGEMENT FACILITY AND EQUIPMENT KEY. Issues, receives, and controls Fuels Management facility key.

2.9.12. MAINTAINS ROSTER. Maintains and verifies vehicle roster, organization tank roster, custodian roster, and cash sales roster.

2.9.13. MAINTAINS AND CONTROLS EQUIPMENT AND CHECKLIST. Inventories and checks condition of radio and charger. Ensures clipboard, checklist, and local operational procedure are current.

3. CRYOGENIC FLUID SUPPORT:

3.1. INSPECTS AND MAINTAINS LIQUID OXYGEN AND LIQUID NITROGEN (LOX/LIN) STORAGE TANK:

3.1.1. TRAVELS TO AND FROM LOX/LIN STORAGE AREA TO PERFORM INSPECTION AND CORRECT DISCREPANCY.

3.1.2. PERFORMS DAILY INSPECTION. Reviews technical order (T.O.) form, inspects tank for serviceability, inspects LOX/LIN site, corrects discrepancy, and completes paperwork.

3.1.3. PERFORMS PERIODIC INSPECTION (180 DAYS). Obtains needed tools, performs LOX/LIN storage area inspection IAW work card, and completes paperwork.

3.1.4. PERFORMS SPECIAL INSPECTION (360 DAYS). Obtains tools and support equipment, initiates safety procedure, performs LOX/LIN storage area inspection, purges tank IAW T.O. and work cards, corrects discrepancies, completes paperwork, and stows equipment.

3.2. INSPECTS AND MAINTAINS LOX/LIN TANK MAINTENANCE SUPPORT EQUIPMENT:

3.2.1. OBTAINS TOOLS AND TRAVELS TO SUPPORT EQUIPMENT STORAGE AREA.

3.2.2. INSPECTS AND PERFORMS PREVENTIVE MAINTENANCE PRIOR TO USE AND DURING OPERATION IAW T.O.

3.2.3. REMOVES GAGES, TRANSPORTS TO PMEL FOR CALIBRATION, AND RETURNS AND REINSTALLS.

3.2.4. COMPLETES PAPERWORK.

3.3. PERFORMS NONRECURRING MAINTENANCE. Obtains tools, travels to LOX/LIN area, troubleshoots, researches part number, obtains part, repairs or replaces part, performs functional check, performs corrosion control, and completes paperwork.

3.4. PERFORMS DAILY INVENTORY OF CRYOGENIC PRODUCT. Travels to and from cryogenic storage area, determines quantity gauge reading, prepares inventory sheet and provides inventory status to accounting section.

3.5 RECEIVES CRYOGENIC PRODUCT. Connects hose, opens tank fill valve, receives product, monitors quantity gauge, closes tank valves, and documents receipt and product loss paperwork.

3.5.1. TRAVELS TO AND FROM LOX STORAGE AREA FOR RECEIPT.

3.5.2. RECEIVES LOX.

3.5.3. TRAVELS TO AND FROM LIN STORAGE AREA FOR RECEIPT.

3.5.4. RECEIVES LIN.

3.6. ISSUES CRYOGENIC PRODUCT. Receives storage tank maintenance form, receives cart and/or ground servicing unit maintenance forms, grounds cart as required, connects hose, opens tank and cart valves, issues product, monitors quantity gauge, closes valves, performs all tasks as required, and completes paperwork.

3.6.1. TRAVELS TO AND FROM LOX STORAGE AREA FOR ISSUE.

3.6.2. ISSUES TO LOX SERVICING CART.

3.6.3. TRAVELS TO AND FROM LIN STORAGE AREA FOR ISSUE.

3.6.4. ISSUES TO LIN SERVICING CART.

3.6.5. ISSUES TO LIN SERVICING VEHICLE.

3.6.6. PERFORMS QUALITY CONTROL. Draws lox samples for odor and purity and completes paperwork.

3.7. TRANSFERS CRYOGENIC PRODUCT. Transfers LOX or LIN from one tank to another for inspection.

4. QUALITY CONTROL INSPECTION:

4.1. PERFORMS QUALITY CONTROL INSPECTION. Prepares for inspection by reviewing responsibility, current project and programs; reviews previous inspection report of the section to be inspected, IG report, and staff assistance visit report; gathers required equipment; inspects facility, equipment, organizational tank, and management procedures for safety, efficiency, and compliance with directive; evaluates personnel performance; puts away equipment; briefs supervisor, prepares routes, establishes suspense, and files inspection record and report.

4.1.1. PERFORMS 90/180 DAY INTERNAL INSPECTION:

4.1.1.1. TRAVELS TO AND FROM 90/180 DAY INTERNAL INSPECTION.

4.1.1.2. PERFORMS SECURITY INSPECTION:

4.1.1.3. PERFORMS TRAINING INSPECTION.

4.1.1.4. PERFORMS CRYOGENIC INSPECTION.

4.1.1.5. PERFORMS ACCOUNTING/ADMIN INSPECTION.

4.1.1.6. PERFORMS DISTRIBUTION INSPECTION.

4.1.1.7. PERFORMS SAFETY INSPECTION.

4.1.1.8. PERFORMS BULK STORAGE INSPECTION.

4.1.2. PERFORMS EXTERNAL TANK CUSTODIAN INSPECTION:

4.1.2.1. TRAVELS TO AND FROM EXTERNAL INSPECTION LOCATION.

4.1.2.2. PERFORMS EXTERNAL TANK CUSTODIAN INSPECTION.

4.1.3. PERFORMS PERSONNEL SPOT CHECK:

4.1.3.1. TRAVELS TO AND FROM PERSONNEL SPOT CHECK LOCATION.

4.1.3.2. PERFORMS PERSONNEL SPOT CHECK EVALUATION AND COMPLETES PAPERWORK.

4.1.4. PERFORMS SPECIAL SUBJECT INSPECTION.

4.1.5. PERFORMS FOLLOW ON INSPECTION AFTER DISCREPANCY IS CLEARED.

4.1.6. PROVIDES TECHNICAL ASSISTANCE. Briefs and provides technical assistance to supported organization.

4.1.7. MAINTAINS DANGER TAG. Identifies safety hazard; prepares danger tag and attaches to equipment or facility removed from service; annotates AFTO Form 150, computer product, base fuels sampling, testing record, annotates danger tag logs; notifies Fuels Management Office, Fuels Control Center, and Wing Safety Office of tagged equipment or facility; inspects and removes danger tag upon notification that system is ready for return to service; and closes out log.

4.1.8. REPORTS MATERIAL DEFICIENCY. Identifies defective/condemned equipment, prepares quality deficiency report, forwards one copy to Equipment office of primary responsibility (OPR), receives response from OPR and follows response instructions, and files report and response.

4.2. POL QUALITY CONTROL TESTING:

4.2.1. TRAVELS TO AND FROM SAMPLE DRAWING LOCATION.

4.2.2. DRAWS SAMPLE. Gathers required equipment; draws sample for fuels test from bulk storage, mobile distribution, hydrant\ distribution, aircraft sump, fuel bowser, support equipment, organizational tank, and cryogenics storage; and puts away equipment.

4.2.2.1. DRAWS SAMPLE USING IN-LINE SAMPLER.

4.2.2.2. DRAWS SAMPLE USING WEIGHTED BOTTLE METHOD.

4.2.2.3. DRAWS SAMPLE USING BACON BOMB.

4.2.2.4. DRAWS SAMPLE USING DRUM THIEF.

4.2.2.5. DRAWS SAMPLE USING CRYOGENICS SAMPLER.

4.2.3. SHIPS SAMPLE TO AREA LABORATORY. Prepares sample and container for shipment; records sample information; inspects sample for proper amount of product, appropriate container, and cleanliness of container; prepares required form and paperwork and attaches to sample; forwards sample to transportation; records laboratory test result; files report when received from laboratory; and resamples when required.

4.2.4. PERFORMS FUELS TEST. Gathers required equipment in laboratory, performs fuel test in accordance with applicable technical publication, and records result on AFTO Form 150, or updates computer.

4.2.4.1. PERFORMS BOTTLE METHOD TEST.

4.2.4.2. PERFORMS IN-LINE METHOD TEST.

4.2.4.3. PERFORMS DRUM THIEF TEST.

4.2.4.4. PERFORMS FUEL SYSTEM ICING INHIBITOR (FSII) TEST.

4.2.4.5. PERFORMS FUELS SOLIDS DETERMINATION TEST.

4.2.4.6. PERFORMS CONDUCTIVITY ADDITIVE TEST.

4.2.4.7. PERFORMS SPECIFIC GRAVITY TEST.

4.2.4.8. PERFORMS VISUAL INSPECTION TEST.

4.2.4.9. PERFORMS FREE WATER DETERMINATION TEST (USING AERONAUTICAL ENGINEER LABORATORY (AEL)).

4.2.4.10. PERFORMS FIBER TEST.

4.2.4.11. PERFORMS SULFIDE TEST.

4.2.4.12. PERFORMS MICROSCOPIC ANALYSIS.

4.3. LABORATORY EQUIPMENT MAINTENANCE:

4.3.1. CLEANS AND MAINTAINS SAMPLING EQUIPMENT. Cleans and maintains sampling equipment in accordance with applicable technical publication.

4.3.2. MAINTAINS AND ADJUSTS TEST EQUIPMENT. Performs electrical continuity testing of electrostatic ground wire connections or other test; calibrates inventory equipment; and makes minor adjustments.

4.3.3. DISPOSES OF TESTED FUEL AND CHEMICAL. Empties tested fuel and chemical into active storage or contamination container upon completion of test.

4.3.4. MAINTAINS CRASHED AIRCRAFT SAMPLING KIT. Inventories, inspects, and replenishes the kit after each use.

5. ACCOUNTING:

5.1. AUDITS ISSUE DOCUMENT:

5.1.1. AUDITS AF FORM 1233, BULK STORAGE SUMMARY. Receives AF Form 1233 from Bulk Storage for each grade of bulk fuel handled, reviews for accuracy, checks beginning and ending meter readings on AF Form 1233 against previous day meter readings, and posts AF Form 1237, Inventory (Fuels/Missile Propellants).

5.1.2. AUDITS AF FORM 1232, BULK FUEL ISSUE/DEFUEL SUMMARY, AF FORM 1994, FUELS ISSUE/DEFUEL DOCUMENT (DOD), AND AF FORM 1995, FUELS ISSUE/DEFUEL DOCUMENT (NON-DOD). Receives AF Form 1232 from Bulk Storage, and ensures required supporting documents for cash sale/reimbursable transactions are attached and proper entries made. Removes and verifies AF Forms 1994 and 1995 against AF Form 1232; records total number of transactions accomplished; tabulates net total of issues, defuels, gains, losses, and fuel handled by meter; and posts results to AF Form 1237.

5.1.2.1. AUDITS AF FORM 1232 AGAINST AF FORMS 1994/1995 OR CONSOLIDATED ISSUE FORM.

5.1.2.2. AUDITS AF FORM 1232 AGAINST AF FORM 1233.

5.1.3. AUDITS DD FORM 1348-1, DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT (FOR CRYOGENICS ISSUE ONLY). Prepares form or receives form from Cryogenics Storage and annotates issue quantities to AF Form 1237.

5.1.4. AUDITS AF FORM 791, AERIAL TANKER IN-FLIGHT ISSUE LOG. Receives form from issuing activity, reviews and researches issue data, and prepares computer input documents.

5.2. AUDITS RECEIPT DOCUMENT:

5.2.1. AUDITS DEFENSE FUELS SUPPLY CENTER (DFSC) FORM 21.1, SOURCE IDENTIFICATION AND ORDERING AUTHORIZATION (SIOATH) OR EQUIVALENT. Receives form from Defense Fuel Region (DFR), reviews for accuracy, and makes corrections as necessary. Manually prepares DD Form 1886, SIOATH Control Record, as required.

5.2.2. AUDITS AF FORM 1231, RECORD OF RECEIPTS, DD FORM 250, MATERIAL INSPECTION AND RECEIVING REPORT, AND COMMERCIAL DELIVERY TICKET. Receives form from Bulk Storage, verifies AF Form 1231 against the commercial delivery tickets, reviews form for proper entries, attaches computer produced DD Forms 1348-1 and/or AF Form 2004-1, Supply Remote Data to the commercial delivery ticket, annotates the AF Form 1237, separates and forwards copies of the DD Form 250 and the commercial delivery ticket to the proper organization.

5.2.3. AUDITS DD FORM 250, MATERIAL INSPECTION AND RECEIVING REPORT (FOR CRYOGENIC RECEIPT ONLY). Receives DD Form 250 and/or supplier delivery ticket from Cryogenics Storage, reviews form for accuracy, and posts receipt quantities to AF Form 1237.

5.2.4. AUDITS AF FORM 855, RECORD OF RECEIPTS (OF MISSILE PROPELLANTS). Receives form with shipping documents from Propellant Storage, and checks to ensure that amount received agrees with amount shipped by contractor.

5.3. AUDITS TRANSFER DOCUMENT. PREPARES DD FORM 1348-1, DOD SINGLE LINE ITEM RELEASE RECEIPT. Manually prepares DD Form 1348-1 for bulk transfer from FP account of ground and aviation fuels, researches and clears update rejects, and separates and disseminates form to appropriate activity.

5.4 AUDITS INVENTORY DOCUMENT:

5.4.1 AUDITS AF FORM 1235, PHYSICAL INVENTORY (FUELS/MISSILE PROPELLANTS). Receives AF Form 1235 for each type of fuel product, checks for accuracy, computes totals, and checks Fuels-Strapping charts for conversion.

5.4.2. PREPARES/MAINTAINS AF FORM 1237, INVENTORY (FUELS/MISSILE PROPELLANTS). Manually prepares form for each fuels product, computes and records all issues and receipts, computes book inventory and records physical inventory from AF Form 1235, records the gain/loss difference between the book and physical inventory and determines if a variance adjustment is necessary, forwards form to Accountable Officer for review, and prepares computer input.

5.5. PREPARES USAF GROUND FUEL IDENTAPLATE. Prepares AF Form 1295/1295A, USAF Ground Fuel Identaplate for recording non-Vehicle Intergraded Management System (VIMS) vehicle and equipment issues.

5.6. COORDINATES FOR RESUPPLY OF FUEL:

5.6.1. COORDINATES WITH SUPPLIER. Coordinates via telephone with supplier, Fuel Storage, and Base Supply to schedule delivery. Confirms quantity to be received and resolves discrepancy.

5.6.2. COORDINATES WITH APPROPRIATE AGENCY. Coordinates with DFR, DFSC, and/or MAJCOM head quarters to resolve resupply difficulties.

5.6.3. PREPARES DD FORM 1155, ORDER FOR SUPPLIES OR SERVICES, OR EQUIVALENT FOR FUELS PRODUCT. Prepares form, coordinates with procurement office, forwards copies as required, and maintains receipt due-in file.

5.6.4. PREPARES DD FORM 1149, REQUISITION AND INVOICE/SHIPPING DOCUMENT, OR EQUIVALENT FOR FORECASTING REQUIREMENT. Researches historical documents, prepares form, and forwards to DFR.

5.7. PREPARES REPORT. Researches, reviews, and prepares report as required by attachment 2 to AFR 144-1.

5.7.1. PREPARES DD-A and L (A) 506 REPORT.

5.7.2. PREPARES HAF LEX (D and AR) 7108 REPORT.

5.7.3. PREPARES HAF - LEY (D & M) 8201 (D33) REPORT.

5.7.4. PREPARES LOG - SA (SA) 7150 REPORT.

5.7.5. PREPARES LOG - SA (SA) 7308 REPORT.

5.8. PERFORMS TRAVEL:

5.8.1. PERFORMS TRAVEL TO AND FROM BASE SUPPLY. Travels to deliver/pickup automated report, miscellaneous item, or DD Form 1348-1.

5.8.2. PERFORMS TRAVEL TO AND FROM ACCOUNTING AND FINANCE OFFICE. Travels to deliver AF Form 1995, Non-DOD Issue Document (to include Cash Sales Document).

5.8.3. PERFORMS TRAVEL TO AND FROM BASE CONTRACTING OFFICE. Travels to deliver local purchase requisition as required.

5.9. COMPUTES GAIN/LOSS TOLERANCE ANALYSIS. Computes gain/loss variance, formulates recommended tolerance for MAJCOM review and approval, computes monthly variance and compares to approved tolerance, and investigates and reports out of balance variance to MAJCOM.

5.10. OPERATES COMPUTER REMOTE. Operates computer remote for inputting requisition, receipt, issue, transfer, gain/loss and inventory data; performs inquiries, reverse posts, and due-in calculations.

5.11. REVIEWS COMPUTER MANAGEMENT PRODUCT. Reviews and validates daily, weekly, or monthly computer management product.

5.12. MAINTAINS DOCUMENT CONTROL FILE:

5.12.1. FILES ACCOUNTING DOCUMENT. Files accounting document by preparing, stamping, and annotating folder. Retrieves file as required.

5.12.2. FORWARDS FILES TO STAGING AREA. Prepares files and forwards to staging area. Retrieves file as required.

INDIRECT: Indirect work involves tasks that are not readily identifiable with the work center's specific product or service. The major categories of standard indirect work are Supervision, Administration, Meetings, Training, Supply, Equipment Maintenance, and Cleanup. See AFMS 00AA for Standard Indirect Description.

STANDARD MANPOWER TABLE														
WORK CENTER TITLE/CODE			STANDARD APPLICABILITY MANHOURLY RANGE											
Liquid Fuels / FAC 4170			See Para. 5 for instructions											
AIR FORCE SPECIALITY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT											
Fuels Supervisor	63170	CIV		1	1	2	2	2	3	3	3	3		
Fuels Specialist	63150	CIV	2	2	3	3	4	5	5	6	7	8		
TOTAL			2	3	4	5	6	7	8	9	10	11		
AIR FORCE SPECIALITY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT											
TOTAL														